

(BL166/2025_IST-ID)

One Research Fellowship for a PhD student

A call for applications is open for a research grant under the project “MAPS - Models, Assessment and Policies for Sustainability”, at IST-ID (contract no. 101137914), funded by the European Union through the Horizon Europe Programme, under the following conditions:

Scientific Area: Mechanical Engineering and Engineering Systems (sub-area of Energy and Environment).

Admission Requirements: be enrolled at a PhD at the time of contract signature.

Workplan: the selected candidate will integrate insights from exergy economics literature into an ecological macroeconomic system dynamics model (Eurogreen), to properly consider the role of energy in the economy and assess energy policies aimed at improving wellbeing within planetary boundaries. In particular, the model will be extended to include the conversion of energy from the final to the useful stage, linking it to households' demand for energy services and improving the modelling of technological innovation in industry. The workplan is relevant for the conclusion of a PhD.

Legislation and Regulations: Law no. 40/2004, of 18 August (Statute for Scientific Research Fellows), as amended by Decree-Law no. 123/2019, of 28 August; IST-ID Regulation for Research Studentships and Fellowships, available on <https://ist-id.pt/recursos-humanos/bolseiros/#documentos-relacionados>.

Workplace: The work will be carried out at the MARETEC Research Centre of the Instituto Superior Técnico, under the scientific supervision of Professor Tiago Domingos.

Duration: The scholarship will last for 12 months, starting in September 2025. The scholarship contract may be renewed for a maximum of 24 months, including the duration of the initial contract. When the academic degree or diploma is awarded during the term of the scholarship contract, it can be completed under the contractual terms established.

Monthly maintenance allowance: The amount of the scholarship is €1,309.64. The method of payment of the scholarship holder is by bank transfer. The grant holder will be reimbursed for the payment of Voluntary Social Insurance (up to the amount corresponding to the 1st step).

Selection methods: The selection methods will be the following:

1. Experience with ecological macroeconomics modelling (system dynamics and agent-based): 40% (0/20);
2. Familiarity with exergy economics literature: 25% (0/20);
3. Software and programming knowledge (Vensim, R, C++, Python): 15% (0/20);
4. Individual interview (in the event of a tie between the best-placed candidates), where motivation and specific knowledge will be assessed: 20% (0/20).

Composition of the selection Jury: Tiago Morais Delgado Domingos (Associate Professor, Chairman); Members: Tânia Alexandra dos Santos Costa e Sousa (Assistant Professor) and João Alexandre Almeida dos Santos (Junior Researcher). Substitute member: Ricardo Filipe de Melo Teixeira (Assistant Professor).

Announcement/notification of the results: The final evaluation results will be communicated to all applicants by email.

Deadlines and procedures of complaint and appeal. A complaint may be lodged from the final decision, or an appeal to the Executive Board of IST-ID, within 15 working days counted from the respective notification.

Application deadline and formalization: The call is open from July 9 until July 15, 2025.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (<https://ist-id.pt/concursos/bolsas/>); ii) *Curriculum Vitae*; iii) academic degree certificate; iv) Proof of enrollment at a PhD course (only at the time of contract signing); v) motivation letter.

Applications must be submitted to nuno.sarmiento@tecnico.ulisboa.pt